



## Questionnaires for Patients with Various Types of Removable Dentures with Partial Absence of Teeth

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**Abstract:** Dentistry and achievements in the field of prevention of diseases of the maxillofacial region, implantology, and treatment of dental diseases, the number of patients in need of prosthetics with removable orthopedic structures of dentures remains high. Among the reasons for the high need for orthopedic treatment with removable dentures, insufficient sanitation of the oral cavity, untimely access of patients to the dentist still occupies a leading position. In addition, an important role is played by the problem of imperfection of materials and technologies used for the manufacture of dentures, leading to deterioration of the dental system.

### Relevance.

There are many scientific and practical works around the world devoted to the local and systemic sensitivity of the body to dentures made of various types of plastics. The results of the conducted studies confirm that when using removable dentures made of acrylic polymers, changes of various nature are often observed in the tissues of the prosthetic bed and the oral mucosa, and the most common of them are inflammatory and dystrophic, associated with mechanical and toxic-allergic effects of the prosthesis base material. However, the quality of removable dentures largely depends on the manufactured material. Therefore, special attention should be paid to improving the biocompatibility and physico-chemical properties of prostheses [1.3.5.7.9.11.13.15].

The fact that the need for orthopedic treatment with dentures, which are accepted in orthopedic dentistry, is increasing every year, is emphasized by all specialists. The complexity of processing dentures made of thermoplastic polymer, leading to a rapid loss of aesthetic characteristics of the denture, its contamination with microorganisms that contribute to diseases of the oral mucosa, the emerging dissatisfaction of patients with the altered appearance of the removable prosthesis. Injection molding technology of thermoplastic polymers is considered as a promising technology in modern dentistry to achieve high aesthetic standards.

This technology is of interest not only among specialists, but also among patients. A common characteristic of this group of materials is the absence of a residual monomer, and, consequently, their bioinertness for the body. Their constructions are characterized by elasticity; lightness, comfort and high aesthetics.

Traditional technical approaches and well-known polishing agents used in dentistry for basic polymers leave traces, micro-scratches, do not allow to achieve a smooth, even and shiny surface of a dental prosthesis made of thermoplastic polymers. The final processing of dental prostheses made of thermoplastic polymers today requires a lot of time and effort from specialists and often leaves dissatisfaction with the quality of the resulting surface.

The developed technique consists in dividing the surface of a removable denture into frontal and lateral segments, the boundaries of which are a line drawn through the middle of the canines on the denture, staining with a solution of methylene blue, rinsing with water for 5 seconds and drying with an air jet for 10 seconds, assessing the hygienic condition of the prostheses by staining the segments. At the same time, the surface of the removable denture is divided into the following segments: 1 and 2 segments – the area of the frontal teeth, 3 and 4 segments – the area of the chewing teeth, the assessment of the hygienic condition of the prostheses is carried out according to the following criteria: 1 degree – staining of the 1st segment – a satisfactory level of hygiene, 2 degree – staining of 2-3 segments – an average level hygiene, grade 3 – staining of 1, 2, 3, 4 segments – unsatisfactory level of hygiene, grade 4 – staining of the entire surface of removable dentures facing the oral mucosa – critical level of hygiene. Depending on the degree of staining of the surface of the prosthesis, patients were given the appropriate recommendations [2.4.6.8.10.12.14].

Methodology for assessing the condition of the oral mucosa. The condition of the mucous membrane of the cavity was assessed by its color, moisture content, degree of compliance. The fact of the influence of removable denture structures can be expressed in the manifestation of pathological changes. For their presence and evaluation, the classification of prosthetic stomatitis proposed was used. The inflammatory reaction of the mucous membrane was detected using the technique proposed.

At the stages of dynamic observation, to identify inflammatory areas of the mucous membrane, the inner surface of the prosthesis was covered with an emulsion-a solution of zinc oxide, a solution of aqueous polyvinyl alcohol and food starch, in a ratio of 1:1:4:3. The surface was dried. After that, the Schiller-Pisarev composition was used on the mucous membrane of the prosthetic bed and a minute later the fixation of the emulsified prosthesis into the oral cavity was carried out. For several seconds, the patient imitated chewing movements. Then the prosthesis was removed from the oral cavity. The iodine included in the composition reacted with starch. The intensity of the base coloring in blue color, topographically displayed areas of inflammation of the oral mucosa. At the heart of the staining process is edema, as a manifestation of the inflammatory process in soft tissues. The assessment was carried out subjectively by color: the more intense the color, the higher the intensity of the inflammatory reaction of the mucous membrane. Quantitative measurement of the area of the mucosal load zones was carried out using the application of a polyethylene film with a millimeter division into a outlined fragment of the oral mucosa. Consequently, the transfer of the inflammation zone was further scanned in the computer program "histogram", the area was calculated. The indicators of the inflammatory response of the patients of the selected groups were summarized. In the future, they were analyzed in a comparative aspect between clinical groups. The dynamics of the state of the oral mucosa was checked after 3.14 days, 1,3,6 months of patient observation [17.19.21.23.25].

A device (pH meter) was used to determine the pH of the oral fluid with special vacuum electrodes with a flat working surface, which provided a rigid connection of the measuring electrode and the reference electrode. The device as part of the pH meter-millivoltmeter model "pH-121", has a low thermal inertia and allows you to get the result in a few seconds. Microbiological studies were conducted in the groups of patients studied by us before and after prosthetics. To do this, patients were offered to rinse their mouths with distilled water 2 hours after eating, then the oral fluid was collected in sterile dishes, and subsequently the surface of differential diagnostic nutrient media was seeded with a certain volume of them. Cultivation of crops for the isolation of anaerobic microbes was carried out

by the method of sealed polyethylene bags filled with mainline natural gas. Identification and differentiation of cultured microorganisms was carried out using. To determine the phagocytic activity of neutrophils in saliva, sampling and processing of the material were carried out according to the method, in modification. The activity of lysozyme in saliva was determined by us using the method [16.18.20.22.24.26.28.30.32].

The data obtained suggest that during this period, signs of the process of atrophy of the underlying tissues of the prosthetic bed are already showing, especially under the rigid basis of the removable prosthesis. The absence at the moment in group 1 indicates the advantage of the surface quality of the removable structure. The loose fit of the removable prosthesis, due to the changes in the underlying tissues, leads in the future to traumatization, inflammation and loss of tissues of the prosthetic bed. The data indicate that in a short period, after a week, the inflammatory response of the mucous membrane of the prosthetic bed in patients of group 1, under the basis, subsides by 56%. The conducted assessment reveals a faster dynamics of reducing the reaction of the inflammatory process of the mucous membrane of the prosthetic bed in patients of the first group, which confirms the importance of the surface of the removable denture structure and indicates the preference for the use of Quadrotti prostheses [27.29.30.31].

It should be noted that by the 10th day of observation, contamination of grade I dentures occurred in 12 (23.5%) patients, grade II in 4 (5.9%), grade III and IV were not detected. Thus, the analysis of the frequency of cases of detection of contamination of acrylic dentures increases. At the same time, with an increase in the duration of their wearing, the number of cases with a high III and IV degree of contamination of prostheses increases. At the same time, it remains at a consistently high level of contamination of prostheses with I and II degrees.

## CONCLUSIONS

1. Sufficiently high biological indifference (less susceptibility to "colonization" by the transient microbial flora of the mouth) of Quadrotti prostheses, allows us to recommend clear concepts of hygienic care for the manufacture of removable prostheses bases.
2. The totality of the data obtained proved that the use of Quadrotti dentures will reduce the number of complications by 1.9 times when using prostheses and, accordingly, improve the quality of orthopedic treatment.
3. Acrylic base materials are characterized by a higher degree of adhesion of the periodontopathogenic flora of the oral cavity compared to Quadrotti prostheses. Quadrotti prostheses used for orthopedic treatment have no negative effect on colonization resistance of the oral cavity and are optimal.

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